

BAB V

KESIMPULAN DAN SARAN

Pada bab ini akan dipaparkan kesimpulan dari hasil penelitian dan saran yang diperlukan untuk proses pengembangan selanjutnya.

5.1 Kesimpulan

Melalui pembahasan yang telah dilakukan pada bab sebelumnya, dapat diperoleh beberapa hal yang menjadi kesimpulan dalam penelitian ini, yaitu :

- a. Aplikasi pengenalan wajah berhasil dikembangkan dengan menggunakan metode eigenface dan wavelet haar sebagai metode untuk *dekomposisi citra*.
- b. Dengan menggunakan *dekomposisi citra* sebagai bagian dalam proses pengenalan wajah, dapat mempengaruhi tingkat akurasi dan mempercepat proses pengenalan wajah. Hal ini ditunjukkan karena sebelum dilakukan *dekomposisi citra*, pada citra berukuran 128x128, tingkat akurasi yang diperoleh sebesar 70% dengan waktu 2862,9 ms. Lalu setelah dilakukan proses *dekomposisi citra* di ukuran 64x64 tingkat akurasinya meningkat sebesar 10%, sedangkan pada citra ukuran 32x32 dan 16x16, tingkat akurasi nya menurun masing- masing sebesar 10% dan 20% dengan selisih waktunya masing-masing adalah sebesar 2,749 kali, 5,58 kali dan 6,484 kali lebih cepat dibanding sebelum menggunakan *dekomposisi citra*.
- c. Akurasi pengenalan wajah terbaik dengan menggunakan *dekomposisi citra* sebagai bagian dalam proses pengenalannya terdapat pada pengujian dengan

menggunakan citra berukuran 64x64 sebesar 80% dengan waktu pengenalan wajah yang dibutuhkan dengan menggunakan *dekomposisi citra* sebagai bagian dalam proses pengenalnya adalah sebesar 1041,4 ms yang menggunakan spesifikasi komputer di sisi server yang terdapat pada batasan masalah dalam tesis ini.

5.2 Saran

Beberapa hal yang perlu dijadikan saran untuk pengembangan dan penelitian selanjutnya adalah:

- a. Penelitian selanjutnya diharapkan dapat mengembangkan aplikasi pengenalan wajah ini sehingga dapat mengenali wajah dengan variasi wajah yang ekstrim atau berbeda jauh posenya dengan wajah yang tersimpan dalam database.
- b. Penelitian selanjutnya diharapkan dapat meningkatkan tingkat akurasi dan waktu pengenalnya agar lebih baik dari yang sekarang ini dengan menggunakan GPU atau cara yang lain.
- c. Aplikasi ini masih sering mengalami gangguan ketika memproses pengenalan wajah dengan menggunakan cahaya yang tidak kondusif. Diharapkan pada penelitian selanjutnya dapat mengatasi permasalahan yang terdapat pada penelitian ini.

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